

mortality in a cohort of human immunodeficiency virus type 1- infected african children.

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Abstract

BACKGROUND:

Pediatric human immunodeficiency virus type 1 (HIV-1) infection follows a bimodal clinical course with rapid progression in 10-45% of children before the age of 2 years and slower progression in the remainder. A prospective observational study was undertaken to determine predictors of mortality in HIV-1-infected African infants during the first 2 years of life.

METHODS:

Infants in a perinatal cohort identified to be HIV-1-infected by DNA PCR were followed monthly to 1 year, then quarterly to 2 years or death.

RESULTS:

Among 62 HIV-1-infected infants, infection occurred by the age of 1 month in 56 (90%) infants, and 32 (52%) died at median age of 6.2 months. All infant deaths were caused by infectious diseases, most frequently pneumonia (75%) and diarrhea (41%). Univariate predictors of infant mortality included maternal CD4 count <200 cells/microl [hazard ratio (HR), 3.4; P = 0.008], maternal anemia (HR = 3.7; P = 0.005), delivery complications (HR = 2.7; P = 0.01), low birth weight (HR = 4.1; P = 0.001), weight, length and head circumference \leq 5th percentile at age 1 month (HR = 3.7, P = 0.003; HR = 5.8, P < 0.001; and HR = 10.4, P < 0.001, respectively), formula-feeding (HR = 4.0; P = 0.01), infant CD4% \leq 15% (HR = 5.5; P = 0.01), infant CD4 count <750 (HR = 9.7; P = 0.006) and maternal death (HR = 2.9, P = 0.05). In multivariate analysis, maternal CD4 count <200 (HR = 2.7; P = 0.03) and delivery complications (HR = 3.4; P = 0.005) were independently associated with infant mortality.

CONCLUSIONS:

Advanced maternal HIV disease, maternal anemia, delivery complications, early growth faltering, formula-feeding and low infant CD4 were predictors of early mortality in African HIV-1-infected infants. In resource-poor settings, these predictors may be useful for early identification and treatment of high risk infants.